



History in the making. Already billed as one of the state's costliest disasters, Hurricane Isabel has secured a place in the annals of Virginia storm history in terms of impact area and recovery costs. Damage estimates have reached \$1.6 billion and the final tally is expected to be higher as more local reports are received.

Isabel was a Category 2 hurricane when it made landfall near Ocracoke Inlet, N.C., on Sept. 18. After crossing into Virginia, 29 hours of tropical storm force winds carved a wide swath through the state with gusts ranging from 47 mph on Chincoteague Island to 107 mph on Gwynns Island (Mathews County). The National Weather Service's Wakefield Office reports that Isabel produced the greatest wind and storm surge in the region since Hurricane Hazel in 1954 and the 1933 Chesapeake-Potomac Hurricane. The winds also contributed to the most significant tropical cyclone-related storm surge on the Outer Banks of North Carolina and the Hampton Roads area since the 1933 storm.

At the peak of the storm, nearly 2 million Dominion Virginia Power and local electric cooperative customers lost power throughout the Commonwealth. In the Washington metropolitan area, Hurricane Isabel left more than two-thirds of Potomac Electric Power Company's customers without power. The Virginia Department of Transportation reported that the hurricanes' onslaught forced closure of more than 1,000 roads and numerous bridges in the Hampton Roads area to include the Chesapeake Bay Bridge, Midtown Tunnel and James River Bridge. Within a week, most were clear of debris for motorists to travel again. The Midtown Tunnel, however, did not reopen until October.

After initial damage assessments, 99 jurisdictions were included under the presidential disaster declaration due to wind and flood damage. Citizens and responders alike will remember Isabel for the thunderous sound of falling trees; the most extensive power outage in the state's history; water shortages; wind and water damage to homes, vehicles and boats; and massive quantities of storm debris. The paragraphs below outline the state's response activities, the problems we faced and the road ahead for the Commonwealth's storm recovery.



State addresses advancing threat. Even before Isabel became a tropical storm on Sept. 6, the Virginia Emergency Operations Center and State Hurricane Planner

Stewart Baker were monitoring the storm track. State officials advised citizens to prepare for high winds, downed trees, flooding and disruption of power as early as Sept. 15. Due to Governor Mark R. Warner's quick action in declaring a state of emergency, the Commonwealth was able to marshal state resources and pre-position Virginia State Police, National Guard and other assets well in advance of the storm. On Sept. 17, Gov. Warner authorized mandatory evacuation of low-lying areas in projected surge zones in the Tidewater area.

As the state braced for Isabel's entry into Eastern and Central Virginia, a pair of maps published only two hours apart dramatized the sudden expansion of dangerous tropical storm and hurricane force winds and the growing danger they posed to the Commonwealth. VDEM used the Virginia Criminal Information Network (VCIN) to keep localities informed of the storm's progress after it went ashore in North Carolina.

Public Inquiry Center opened. To address growing public concerns, the state opened the Virginia Public Inquiry Center on Sept. 16. More than 6,200 citizens called the center before, during and after the storm for emergency preparedness information and guidance about Hurricane Isabel. Located at the Department of Motor Vehicles training facility, the call center remained open after power and water were cut off to the building as the storm swept through the Richmond area. Typical queries prior to the event included information requests about the probable course of the storm, mandatory evacuations and recommended preparations. Afterwards, citizens asked about power restoration, ice and water, lost food, downed trees and debris removal. As most of the call-takers had also experienced storm damage and power outages, they could offer a sympathetic ear and a human touch during a very stressful time.

Public health and safety concerns. In the days following the storm, more than 20 jurisdictions experienced major problems with water and sewage pump stations due to power outages and 231 boil water advisories were put into effect. These advisories remained in effect through October for some jurisdictions. During the response phase, more than 6.4 million pounds of ice and 1.5 million gallons of water were provided for residents of affected areas. The Virginia Department of Health urged citizens to reduce the risk of mosquito-borne diseases by using personal protection and to take special precautions if they were dependent upon wells and septic systems affected by a tidal surge or flooding. Though few citizens died during the storm, the death toll continued to rise in the days following the event. The state's Chief Medical Examiner confirmed 33 hurricane-related deaths from a variety of causes to include drowning, carbon monoxide poisoning (poorly vented generators), fire, heart attack and debris cleanup accidents.

Evacuations minimize rescues. Although Hurricane Isabel affected a large portion of the state, the number of search and rescue missions recorded was remarkably small. Most of the rescues were handled locally without assistance from the State Search and Rescue Coordination Center at the Virginia Emergency Operations Center. Gov. Warner's early emergency declaration and authorization of local mandatory evacuation orders prompted a large number of residents in flood prone areas to leave before the storm struck. At the height of the incident, about 6,000 residents took refuge in 134 shelters and many jurisdictions imposed curfews. A number of citizens did become stranded in floodwaters in their residences or vehicles. One state call out involved the dispatch of the Salem Swift Water Search

and Rescue Team to Rockbridge County where they rescued nine individuals from two homes and an automobile.



IA outreach to Isabel victims. By the end of October, more than 83,000 individuals had used the toll-free FEMA registration number to seek disaster assistance and the number of disaster victims visiting fixed and mobile disaster recovery centers surpassed 17,000. Temporary housing assistance totaled more than \$26 million with over 200 travel trailers deployed to localities to provide temporary shelter to families who lost their homes. Approved U.S. Small Business Administration loans for homeowners, renters and businesses exceeded \$24.8 million and approved disaster unemployment insurance claims topped 1,200.

On Oct. 20, approximately 65 watermen who earn their living from the Chesapeake Bay region attended a meeting in Warsaw with federal and state officials, including a representative of the National Marine Fisheries Service. Presentations and discussions focused on business loans, disaster unemployment assistance, special funds and permit streamlining.

The Debris . . .

Localities apply for debris removal assistance. Soon after the storm passed, 20 Public Assistance teams fanned out through the 99 declared localities to conduct kick-off meetings and develop project worksheets to repair damages. Debris removal proved to be the biggest public assistance issue. Of the estimated \$117 million in requests reported by Oct. 29, debris removal accounted for about \$90 million or 75 percent of the total costs. A total of 275 eligible entities have sought this assistance with the number of total cleanup and repair projects expected to reach 1,459. In addition, the Pamunkey and Mattaponi Indian tribes reported damage to their fisheries and sought public assistance.

Debris stretches disposal resources. Isabel created an estimated 20 million cubic yards of debris from fallen trees, branches, brush and stumps. Piled up at one site, the debris would cover a square mile 19 feet deep. At about 30 yards per truckload, that comes to more than 650,000 loads. Stretched in a line bumper-to-bumper, the trucks would reach from Norfolk to San Francisco and back - a distance of about 6,000 miles. FEMA Public Assistance funding helped underwrite the enormous cost of removing this debris. Lumber companies salvaged hardwood trunks for boards and paper companies carted away useable logs for pulp. Other debris was ground up in piles for mulch. The remainder, along with thousands of stumps, was burned in huge, high-temperature fires designed to minimize pollutants.

To help meet citizen needs for debris removal, Virginia's Voluntary Organizations Active in Disaster (VOAD) coordinated volunteers to help individuals with debris removal across the state. People needing assistance with debris removal/cleanup and those who wanted to serve as volunteers were encouraged to call the Hurricane Isabel Volunteer/Donations Hotline. Nearly all of the 1,626 calls recorded involved tree and debris removal. In cooperation with local authorities, member organizations in this statewide association of human services and faith-based organizations set up centers throughout the state to recruit and coordinate volunteers. Participating groups included the Brethren, Lutheran, Roman Catholic

and Episcopal churches and the United Methodist Committee on Relief (UMCOR), Mennonite Disaster Services, American Baptist Men, Adventist Community Services, the Southern Baptist Convention and Southern Baptist Conservatives.

Hazmat activity relatively low. As Hurricane Isabel caused more damage from high winds than flooding, the number of hazardous material responses was relatively low compared to other disasters. Most of the hazmat incidents were concentrated in the counties of Northumberland, Surry and Rockbridge where the storm and high water loosened propane and some 20 home heating oil tanks from their foundations, spilling their contents. In Tidewater, about 100 propane tanks were damaged and responders found a glass jar containing 16 pounds of mercury. In many cases, hazmat crews had to wait until heavy equipment could remove enough debris to reach the contamination from the tanks. By comparison, the city of Franklin alone had as much as 120,000 gallons of petroleum products floating in the flooded downtown area following 1999's Hurricane Floyd.



Hazard mitigation grants on the horizon. Hurricane Isabel heavily damaged or destroyed nearly 10,000 homes. Seventy-seven businesses were destroyed and 1,400 received some kind of damage. While some of the losses were unavoidable, participation in the Hazard Mitigation Grant Program (HMPG) might have reduced the effects of one of the worst storms in the state's history. All Virginia localities participating in the National Flood Insurance Program are eligible to seek grants, even if they were not declared disaster areas due to Hurricane Isabel. In the competitive application process, localities outline their proposed projects and the cost. Special applicant briefing sessions were held for declared localities on Oct. 24-30 to provide an overview of the application process for the cost-share grants. Though not currently required, hazard mitigation planning will be a prerequisite for receiving project grants in the future.

A report card for the Commonwealth. Experience is always the best teacher and the magnitude of Hurricane Isabel produced some unique lessons learned. The state is already moving forward to incorporate enhancements into its plans and processes for future disasters and emergencies. VDEM is working in concert with Gov. Warner's Hurricane Isabel assessment team to build upon strengths and identify areas for improvement. The three-member panel is interviewing federal, state and local officials and agency staff, as well as individuals from volunteer organizations and the private sector. The panel is expected to present its recommendations to strengthen the state's communications and logistical capabilities by the end of this month. Some recommendations may be the genesis of new legislation introduced during the next session of the General Assembly.

Conference to highlight outreach programs. As the state recovers from the effects of Hurricane Isabel, the role of individual citizens in emergency preparedness and response has come sharply into focus. The Virginia Public Safety Outreach Conference, to be held Nov. 19 - 21 at the Richmond Marriott, will bring together outreach, public safety, Citizen Corps and public affairs practitioners from across the Commonwealth to focus on community disaster education. This two-and-a-half-day event includes optional pre-conference sessions plus panel discussions, best practices and breakout sessions. Gov.

Warner will provide the keynote address and John Bridgeland, Assistant to the President and Director of USA Freedom Corps, has also been invited. Additional presenters include Liz DiGregorio, Citizen Corps Liaison to the White House, and Virginia Secretary of Public Safety John Marshall.

Breakout sessions will cover a wide range of topics including Neighborhood Watch, CERT, reaching across cultural barriers and incorporating senior citizens into your volunteer efforts. The conference fee is \$45 and includes continental breakfasts, lunch Thursday, snack breaks and all sessions.

Visit the VDEM Web site at www.vaemergency.com for a more detailed schedule and to download the registration form.

Completed registration forms with payment must be postmarked by November 13. For more information, contact [Dawn Eischen](#) at (804) 897-6510 or [Suzanne Simmons](#) at (804) 897-6518.